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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,041	07/11/2001	Michael P. Hollier	36-1459	6105
23117	7590	07/12/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			PERUNGAVOOR, SATHYANARAYA V	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/889,041	HOLLIER ET AL.
	Examiner Sath V. Perungavoor	Art Unit 2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 June 2006.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:
 

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Applicant(s) Response to Official Action***

[1] The response filed on June 1, 2006 has been entered and made of record.

### ***Response to Arguments***

[2] Presented arguments have been fully considered but are held unpersuasive. Examiner's response to the presented arguments follows below.

#### **Missing priority documents**

##### *Summary of Arguments:*

Applicants have resubmit 99304824.8 (EPO).

##### *Examiner's Response:*

99304824.8 (EPO) has been received and filed.

#### **Objection to the Specification**

##### *Summary of Arguments:*

Applicants correct the specification objections and request the withdrawal of the objection.

##### *Examiner's Response:*

Agreed. Examiner withdraws the previously made objection.

#### **Claim Rejections**

##### *Summary of Arguments:*

Applicants direct the Examiner to an affidavit in the IPER of PCT/GB00/00171 of which the instant application is the national stage, and state that Rix is not prior art in view of the affidavit. Accordingly, applicants request the withdrawal of the rejection.

Examiner's Response:

Examiner respectfully disagrees. In order for the affidavit to be considered by the USPTO, it needs to be filed under 37 CFR 1.132, hence the affidavit has not been considered.

Accordingly, Examiner maintains the rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[3] Claims 1-6, 8, 12-17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rix et al. (“Rix”) [NPL document titled, “Models of Human Perception”].

Regarding claim 1, Rix meets all the claim limitations, as follows:

A method of measuring the differences between a first video signal and a second video signal [*Figure 10*], said method comprising: analyzing the information content of each video signal to identify the perceptually relevant boundaries of the video images depicted therein [*Page 10, Column 2, Paragraph 1*]; comparing boundaries so defined in the first signal (i.e. original) with those in the second (i.e. degraded) signal

*[Page 30, Column 2, Paragraph 1]*, the comparison including determination of the extent to which the properties of the boundaries defined in the first image (i.e. original) are preserved in the second image (i.e. degraded) *[Page 30, Column 2, Paragraph 1]*; and generating an output indicative of the perceptual difference between the first and second signals *[Page 30, Column 2, Paragraphs 1 and 2]*.

Regarding claim 2, Rix meets all the claim limitations, as follows:

A method as in claim 1, in which the information content is analyzed for a plurality of boundary-identifying characteristics *[Page 30, Column 1, Paragraph 5]*, and the properties of boundaries on which the comparison is based include characteristics by which such boundaries are defined in each of the signals *[Figure 10; Page 30, Column 2, Paragraph 1]*.

Regarding claim 3, Rix meets all the claim limitations, as follows:

A method as in claim 2, wherein the characteristics include the presence of edges *[Page 30, Column 1, Paragraph 5]*.

Regarding claim 4, Rix meets all the claim limitations, as follows:

A method as in claim 2, wherein the characteristics include the presence of disparities between frames of the same signal *[Page 30, Column 1, Paragraph 5: Movement]*.

Regarding claim 5, Rix meets all the claim limitations, as follows:

A method as in claim 2, wherein the characteristics include changes in at least one of the properties of: luminance, color or texture [*Page 30, Column 1, Paragraph 5*].

Regarding claim 6, Rix meets all the claim limitations, as follows:

A method as in claim 1, in which the comparison includes a comparison of perceptibility of corresponding boundaries identified in the first and second signals [*Page 30, Column 2, Paragraphs 1 and 2*].

Regarding claim 8, Rix meets all the claim limitations, as follows:

A method as in claim 1, in which the analysis includes identification of perceptually significant features [*Page 27, Column 2, Paragraph 4*], and the output indicative of perceptual difference between the first and second signals is weighted according to the cognitive relevance of such image features [*Figure 10; Page 32, Column 1, Paragraph 1*].

Regarding claims 12-17 and 19 all claimed limitations are set forth and rejected as per discussion for claims 1-6 and 8.

Regarding claim 20, Rix meets all the claim limitations, as follows:

Apparatus as in claim 12, further comprising visual stage means for processing original input signals to emulate the response of the human visual system and to generate modified input signals for input to the analysis means [*Figures 5 and 10*].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[4] Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rix in view of Huang et al. (“Huang”) [NPL document titled, “A Robust Approach to Face and Eyes Detection from Images with Cluttered Background”].

Regarding claim 7, Rix discloses the claim limitations as set forth in claim 1.

Rix does not explicitly disclose the following claim limitations:

A method as in claim 1, in which the comparison of the images includes:  
identification of the principal elements in each image, and compensation for  
difference in the relative positions of said principal elements.

However, in the same field of endeavor Huang discloses the deficient claim limitations, as follows:

A method as in claim 1, in which the comparison of the images includes:  
identification of the principal elements (i.e. face) in each image [*Page 4, Column 1, Paragraph 3*], and compensation for difference in the relative positions of said principal elements [*Page 4, Column 2, Paragraph 3*].

Rix and Huang are combinable because they are from the same field of image processing.

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Rix with Huang to perform registration, the motivation being obtain proper alignment of two images *[Page 4, Column 1, Paragraphs 1 and 2]*.

Regarding claim 18 all claimed limitations are set forth and rejected as per discussion for claim 7.

[5] Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rix in view of Zhou [US 5,550,580].

Regarding claim 9, Rix discloses the claim limitations as set forth in claim 8.

Rix does not explicitly disclose the following claim limitations:

A method as in claim 8, in which perceptually significant image features are those characteristic of the human face.

However, in the same field of endeavor Zhou discloses the deficient claim limitations, as follows:

A method as in claim 8, in which perceptually significant image features are those characteristic of the human face *[Column 4 Lines 1-5]*.

Rix and Zhou are combinable because they are from the same field of image processing. It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Rix with Zhou to identify the human face, the motivation being viewer focus would be on the human face and quality defects would be more perceptible in face region *[Column 4, Lines 1-5]*.

Regarding claim 10, Zhou meets all the claim limitations, as follows:

A method as in claim 9, in which a weighting is applied to the output according to significance of the feature in providing visual cues to speech [*Column 4, Lines 6-14*].

[6] Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rix in view of Bhaskaran et al. (“Bhaskaran”) [NPL document titled, “Text and Image Sharpening of Scanned Images in the JPEG Domain”].

Regarding claim 11, Rix discloses the claim limitations as set forth in claim 8.

Rix does not explicitly disclose the following claim limitations:

A method as in claim 8, in which perceptually significant image features are those by which individual text characters are distinguished.

However, in the same field of endeavor Bhaskaran discloses the deficient claim limitations, as follows:

A method according to claim 8, in which perceptually significant image features are those by which individual text characters are distinguished [*Page 326, Column 1, Paragraph 3*].

Rix and Bhaskaran are combinable because they are from the same field of image processing. It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Rix with Bhaskaran to identify sharp edges, the motivation being the improve image quality [*Page 326, Column 1, Paragraph 4*].

### ***Conclusion***

[7] **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Contact Information***

[8] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Bhavesh M. Mehta whose telephone number is (571) 272-7453, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

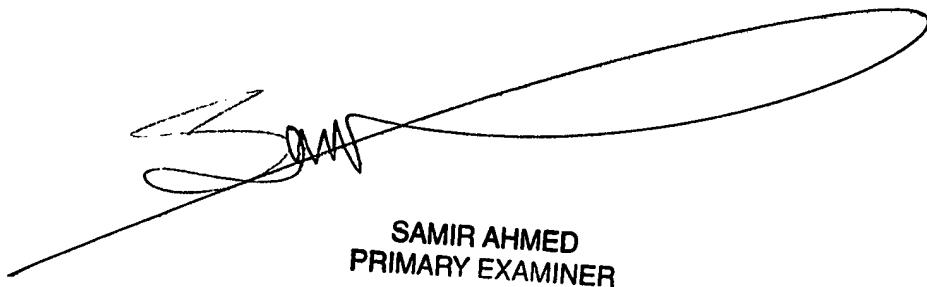
see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: July 6, 2006

By: 

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For: Samir A. Ahmed



SAMIR AHMED  
PRIMARY EXAMINER